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**Africa RISING and Africa RISING Scaling Projects Joint Planning Meeting**

**SG Resort, Arusha: 9-10th November, 2015**

**and**

**Feedback Meetings, Babati: 12-14th November, 2015**

**Reports**

Festo Ngulu



The Africa Research In Sustainable Intensification for the Next Generation (Africa RISING) program comprises three research-for-development projects supported by the United States Agency for International Development as part of the U.S. government’s Feed the Future initiative.

Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program’s monitoring, evaluation and impact assessment. <http://africa-rising.net/>

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**Agenda:**

**Day 1**: (i) Reflections on terms of reference of the USAID Commissioned Evaluation –due Feb 2016

(ii) Gender integration,

(iii) Africa RISING\_NAFAKA Scaling Project

**Day 2**: A-R 2014/15 progress summary and planning activities for 2015/16: Kongwa, Kiteto & Babati sites

**Day 1:** **08.30 – 17.20**

**1. Opening remarks**

Timing of the meeting coincided with time-period when most of the theme leaders were engaged in multiple activities but had to compromise their tight work schedule and participate in the meeting; in order to ensure timely planning of integrated field activities. The chief scientist had to cut short his leave to chair the meeting. In his opening remarks, he thanked the Kongwa/Kiteto team and the Africa RISING\_NAFAKA scaling project PIs for accepting the proposition to hold a joint Tanzania meeting with the Babati- site team. The aim of bringing the teams together was to learn from each other and to determine what they could do best in 2015/16, in line with the commissioned internal and external review recommendations.

One of the recommendations was on responsive funding and reporting system to ensure timely implementation of field activities. Unfortunately some of the principle investigators (PIs) have not been responsive at an acceptable pace; thus causing serious concerns on performance of the project. For instance despite the call to submit 2015/16 proposals since August, some PIs are yet to respond thus holding back approval of funds for 2015/16 work plan. He also re-emphasized the importance of integrating theme activities; both at the design and experiment-site level; and the need to make our research work more visible through timely publications. “If you don’t write, you haven’t done.”

**2. Terms of reference of the External Evaluation Team (EET)**

During Africa RISING Programme Strategy workshop in Bamako this year, USAID Commission of External Review Team met with A-R participants and shared insight of the scheduled evaluation process and expectations. The evaluation is due sometimes in February next year; focusing on four research objectives as indicated herein. In preparation for EET, meeting participants brain-stormed on “evaluation questions” in respective research objectives; with the view to conceptualize appropriate responses to the questions; and to identify areas where we need to take necessary steps as we refine integration of 2015/16 activities.

**Objective 1: Identify and evaluate demand-driven options for SI**

**Evaluation questions**: Extent of scientifically valid and robust conclusions and professional-level outputs embracing experimental designs, publications, demand –driven options and opportunities for increasing number and/or quality of research outputs and outcomes; contribution of research partnerships to rigorous process and quality research outcomes; capacity building and integration of gender, climate change and nutritional factors into the research programme.

**Responses:**

* Figure 6 in the A-R Programme Framework, 2012 -2016; provides a concise picture of the project including connectivity of M&E components, activities and outputs. Further insights are found in the “Revised Review Reporting and Activity Planning Template, ESA 2015/16” that was developed in Mangochi during the review and planning meeting in July 2015. The template shows flagship technology, technology attributes other descriptors and target activities to mature the technology.
* Demand- driven options and opportunities for enhancing quality research outputs/outcomes: This factor is incorporated into the project. It was captured in detail during the inception meeting at Ngurdoto in 2012, where key stakeholders in the agricultural sector at national and district levels identified major productivity constraints/challenges and opportunities. This initial step was complemented by subsequent sensitization meetings at A-R action village sites, baseline surveys by respective themes to further refine challenges and opportunities in targeted action sites; step-wise integration of treatment combinations tailored to targeted AEZ, and active involvement of beneficiaries through training, farmer assessments, field days and feedback meetings.
* Contribution of partners to rigorous process and quality research outcomes: The project is implemented jointly by several CGIAR centers specialized in different disciplines in partnership with NARs and other local institutions, to optimize synergy and fast track quality research outputs/outcomes for sustainable intensification. Experimental designs include alpha lattice and randomized block designs. On-farm demonstrations are conducted along a mother- baby approach
* Integration of gender, climate and nutritional factors into the programme: The project consists of several research themes on crops/livestock integration (e.g maize, legumes, vegetables, fodder and poultry), food storage, value addition, nutrition and mycotoxin management. The research is done on-farm in representative AEZ in partnership with women, men and youth.
* **Homework to PIs:** Write a summary of what you have done– in fliers, posters, success stories and protocols on flagship technologies. Offload them to the wiki. Gloriana highlighted basic procedures on how to access the wiki and yammer.

**Guidelines on what and how to write**:

1. **Success story:** A one page story that focuses on one person. It can be on science, impact on economics or environment. For the “mother A-R project” the story can also focus on “the science”
2. **Flagship technology protocol**: Title, rationale & objective, link to A-R objectives. Describe the experimental design process -methods, partnerships and outputs in detail. Incorporate gender, climate and “the who/how’’ delivery pathways. Add the integration component. Indicate what we need to do to mature the technology. Insert figures and tables-they are more illustrative. Maximum five pages
3. **Posters and fliers**: Gloriana has already shared format for poster development

* **Identified flagship technologies**

**i. Crop management efficiency:**

* Maize pigeon pea intercrop using Minjingu mazao
* Lab lab relay – combine with “nutrient flow measurements” & livestock components

**ii. MLND** – a specialized field in response to emerging challenges

**iii. Integrated Livestock Feeds**

* Forages for livestock feed and landscape management
* Nutritional packages –home made feed rations, crop based rations for ruminants, vegetable based ration for indigenous chicken / crop based rations for ruminants
* Feed processing technologies to improve use of crop residues & forage

**iv. Vegetables integration into maize based systems**

* Elite varieties
* Healthy seedlings
* GAP
* Mobile garden
* Vegetable / poultry integration
* **v**. **Food storage, value addition and mycotoxin management**
* Improved storage structures
* maize processing machines & drying technology
* Enhancing nutrition through product development
* Reducing pre-harvest mycotoxin contamination through:
  + Biological control of aflatoxin – (Aflasafe)
  + Identification of GAP measures that reduce contamination
  + Good post harvest management
* Capacity building and awareness creation

**Q. How do we determine a mature technology:** Revisit both the Wiki and the review reporting and activity planning template developed in Mangochi

**Objective 2: To evaluate, document and share experiences with approaches for delivering and integrating innovations**

**Evaluation questions:** Extent of effective research design harmonization among partners across sites; existence of opportunities that encourage application of research outcomes to appropriate comparable sites within and beyond A-R research sites

**Responses**: Joint review and planning meetings.

**Objective 3: To create opportunities for smallholder farm households with A-R action research sites to move out of poverty & improve their nutritional status**

**Evaluation question:** What are the more promising techs / innovation packages developed for adoption by smallholder farmers, what are the defining criteria for “promising” tech/innovation package, similarities and differences in criteria among the different research sites?

**Appropriate response**: Refer to template on flagship technologies.

**Objective 4: Facilitate partners led dissemination of integrated innovations for SI beyond A-R action research sites**

**Evaluation questions:** to what extent has impact pathways been mapped out and used by different elements within A-R. In what ways have relevant partners been engaged in different stages along the impact pathway? What other partners could be engaged. What are the opportunities for current and potential partners to contribute to A-R. What opportunities are there to maximize dissemination of technologies to small holder farmers? What are some of the challenges the project needs to address.

**Appropriate responses**: (i)Partner led dissemination of integrated packages –e.g. AR\_NAFAKA scaling project, (ii)Engagement of seed companies –provide them with breeder seed to multiply and disseminate. (iii) Sensitization of agro-dealers – e.g. sale of hermetic bags, (iv) Production of QDS by small holder farmers. (v) Scope of R4D platforms in enhancing institutional linkages and co-learning to address cross cutting issues/challenges

**Challenges:** Over expectations for funding by some district councils. This can be resolved by developing a signed modality of collaboration agreeable to both parties right from the beginning of a project. It is helpful to keep and share minutes of meetings with partners.

**3. Gender integration –** G.Fischer, a gender specialist gave a short presentation on gender disaggregation. She outlined standards for sex disaggregation: (i) individuals (ii) both female and male individuals, (iii) heterogeneity in groups. The disaggregation enhances insight into who/what questions related to roles and decision making. It allows different groups to speak for themselves and therefore making it easier to identify gender related constrains and opportunities. It fosters effective targeting of all groups.

**4. AR\_NAFAKA scaling project-** H.Sseguya gave a brief overview of the project. The scaling project is disseminating improved varieties, good agricultural practices and natural resource management for maize, rice and vegetables in Manyara, Morogoro and Dodoma regions but plans to expand to Iringa and Mbeya. It also addresses food wastage and nutrition aspects. Key partners include NAFAKA, MVIWATA, TOSCI, FIPS Africa, AMCOS and TNRI.

**Day 2: A-R 2014/15 progress summary and planning activities for 2015/16**

This agenda was handled separately, according to Africa RISING action districts. Minutes reported herein are for Babati site.

**Babati- site planning meeting, SG resort 10th Nov 2015** **List of Participants**

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**Agenda:**

1: 2014/15 progress summary and work plan for 2015/16

2: Feedback meetings and site selections

**1: 2014/15 progress reports and work plan for 2015/16**

**2014/15 progress reports:**

All themes presented a summary of 2014/15 activities. Performance of most field trails was below expectations due to poor climatic conditions. Data collection is in progress (forages, vegetables/poultry). Analysis of data is not yet completed (WT1 and WT 2). Copies of the reports are available in soft copy.

**Planned activities for 2015/16**

A summary of the activities across A-R sites is shown n table 1.2

**Table 1: Babati – site work plan; 2015/16**

|  |  |  |  |
| --- | --- | --- | --- |
| **Theme** | **Action Sites** | **Planned activities** | **Integrated components** |
| 1. Crop management efficiency | Long, Seloto, Sabilo, Hallu | * (i) Manure demonstration trials, (ii)Improving soil cover in maize / pigeon pea intercropping with Minjingu-mazao   (iii) Selected continuation and exposure of best- bet ISFM to farmers; (iv) Participatory economic and gender analysis, (v) Modeling ad scaling; (vi) Training, communication and dissemination | (i) Environmental services – in forage plots  (ii) Mycotoxin assay of samples from different treatments |
| 2. MLND | Hot spot sites in Babati | (i) Continue validating performance of promising hybrids identified in 2014/15,  (ii) Assess effect of different management options on MLN incidence,  (iii) Establish prevalence and identify causative virus strains, (iv) Determine key biophysical factors of MLND and (v) Develop capacity for MLN diagnosis | Assay of samples for mycotoxin content |
| 3. Integrated Livestock Feed | Long, Seloto,Sabilo, Matufa, Shaurimoyo, Hallu | 1. Formulate low cost feed rations, 2. Capacity building in the 6 action villages, 3. Quantify feed wastage, 4. Demonstrate improved feed intake, 5. Formulate chicken rations from crop residues, 6. Conduct CBR, 7. Scale mature technologies   (viii) Collect yield and growth data on *Brachiaria,* *Cenchrus* and Legumes. | (i) Environmental services  (ii) Mycotoxin assay – feed rations samples |
| 4.Vegetables & indigenous poultry | Seloto, Bermi, Matufa, Gallapo | (i) On-farm trials of elite vegetable varieties  (ii) Community based-mobilization of farmers to access stable markets and market information systems  (iii) CBR of best-bet technological packages  (iv) Vegetable/poultry integration and productivity enhancement  (v) Explore options for effective water harvesting in A-R vegetable sites  (vi) Integrated crop pest management practices and food safety analysis  (vii) Validate post harvest processing and utilization processes  (viii) Develop and integrate ICPM of vegetable pest and diseases management into existing farming systems  (ix) Establish vegetable seedling unit at community level | Poultry / vegetables: 24 farmers  ii. Mycotoxin assay on formulated feed samples |
| 5. Foods storage, value addition and mycotoxin management | Long, Seloto, Sabilo,Hallu, Sangaiwe, Shaurimoyo Matufa | (i)Establish 3 more pilot processing and community training centres,  (ii) Conduct CBR  (iii) Evaluate Aflasafe efficacy  (iv) Analyze mycotoxin levels in poultry feed rations, samples from field experiments and farmers fields and stores,  (v) Train farmers/households in novel processing, products development and preservation of locally produced grains,  (vi) Community sensitization with regard to improved grain processing, drying and storage tech, & nutrition  (vii) Publish minimum 2 papers in international journals | WT 1(fertilizers), WT8 (poultry) WT2 (MLND)  TFNC  Scope for collaboration with WT3 –storage of poultry feed// maize bran high mycotoxin levels |
| 6. Institutional co-operation and co-learning (R4D Platform) | District & ward level | (i) Mobilizing operational platforms at ward level  (ii)Feedback meeting with farmers  (ii) Training sessions with stakeholders on participatory interventions  (iii) Community based mobilization to access markets and market information systems  (iv) Gender integration | Cuts across themes - address community issues/ training/ scaling/group mobilization.  Need to revitalize |

**(ii) Feedback meetings**

**Purpose**: Feedback meetings is an annual event organized at the end of the cropping season, aiming at gaining insight of targeted communities’ perception on the performance and relevance of candidate innovative technologies to their livelihoods

**Approach:** Researchers link up with local leadership in A-R action sites to arrange meeting schedules and invite both participating and non-participating farmers in the project to attend the meeting in their respective sites. Researchers present brief overview of respective research themes, followed by questions, comments and suggestions by the community. More time is allocated to farmers’ responses. Meeting schedule and profile of meeting participants is indicated in table 2

**Main observations/ lessons/ issues:**

* A-R targeted beneficiaries have positive perception on the various research components; e.g. they acknowledged significant maize yield increase and minimal post harvest grain damage by weevils by using hermetic bags (Long). A farmer from Gallapo testified on high returns from vegetables in terms of dietary needs and income (Gallapo). Haysom village bordering Bermi is asking for inclusion in the project; expressed particular interest in the livestock feed component
* A-R site specific needs: Long village asked for additional components: rabbits, poultry, dairy cows, vegetables and fruits, and expertise in managing Irish potato diseases. In Hallu village some farmers own 5 -10 acres. They expressed concern on the practicality of using ropes to align planting rows. To them, the best practical option is to use either oxen-drawn or tractor mounted planters
* Need for more sensitization and engagement of farmers especially in Shaurimoyo, Matufa and Hallu: Judging from their questions, most of them appeared to have limited information/knowledge on post harvest technologies, forages, choppers/milling machines, symptoms associated with nutrient deficiencies / diseases and safe use of pesticides
* Seloto was among three villages which received electric powered choppers/milling machines. Farmers in this village expressed preference for petrol–engine machines.
* According to their observation, milling cobs consumes more fuel compared to other feed staff
* Famers turn up to meetings is to a large extent influenced by village leadership; e.g low turn up from Bermi village was closely related to low commitment of village leaders.
* Logistical hitches: Initial meeting schedule was interrupted by unprecedented meeting organized by the district council in Long village. We encountered further complications at Sabilo on 12.11.2015, where the community was engaged in funeral activities. For logistical reasons, we had to cancel the meeting at Sabilo and ferry Gallapo veg/poultry farmers to Hallu meeting.

**Table 2: Audience profile across the villages**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Village** | **Date of meeting** | **Total number of participants** | **Male** | **Female** | **Youth (< 35 years)** |
| 1. Seloto | 12.11.2015 | 93 | 55 | 38 | 23 |
| 2.1 Hallu | 13.11.2015 | 112 | 87 | 25 | 90 |
| 2.2 Gallapo | 13.11.2015 | 19 | 10 | 9 | 9 |
| 3. Long | 13.11.2015 | 94 | 67 | 27 | ? |
| 4. Shaurimoyo | 14.11.2015 | 107 | 85 | 22 | 84 |
| 5. Matufa | 14.11.2015 | 81 | 54 | 27 | 36 |
| 6. Sabilo | 12.11.2015 | Meeting cancelled: Whole village community involved in funeral activities | | | |

**Recommendation for future feedback meetings**

* Improvements on meeting schedule: One full day per village – to give farmers ample time to exhaust their questions
* As we are coming to the end of phase 1 of the project, there is need for illustrative posters and fliers –enough copies for each village, summarizing main achievements / benefits of the various packages
* More frequent visits by theme teams to the action sites like Shaurimoyo and Hallu
* Closer follow ups with the extension agents and village executive officer to boost farmers’ response to invitation to meetings

**APPENDICES**

**Appendix 1**: Questions and answers to presentations by respective themes.

**WT 1:** **Crop management efficiency**: Did not get much data this year due to drought and therefore planning to repeat same trials in same sites in 2015/16 and come up with site specific fertilizer recommendations. Intend to maintain nutrient flow measurements in forage plots. Will also integrate with the Scaling project

**Q1**. Why site specific fertilizer recommendations. How do you scale

**A**: At the moment the revised recommendation for maize is 45kg N /ha & 20kg P/ha. Can determine site specific recommendations by using specialized tools

**Comment**: In the presentation you indicated farmers are changing their negative mindset towards mineral fertilizers. It is important to quantify this; advisable to team up with Gundula and IFPRI to develop a tool for measuring this change

**Q3:** Why is A-R not thinking of manure management?

**A**: No body for now but probably in phase 2

**Q4:** What is the best way of managing poultry manure: Poultry manure is nutrient dense.

A: Is an area for further discussion but one of the practical options is to mix with compost/crop residue

**WT2:** MLND: Intends to continue validating performance of promising hybrids identified in 2014/15, assess effect of different management options on LMLN incidence, establish prevalence and identify causative virus strains, determine key biophysical factors of MLND and develop capacity for MLN diagnosis. Field activities are scheduled in March 2016. Site selection is in progress

**Q1**. What can we do to limit spread of the disease in the country? Given the way MLN has been spreading to maize growing areas in the country, isn’t it justifiable to conduct studies to verify levels of seed borne infection?

**A.** Yes. George Mahuku at IITA is conducting studies on this. Results indicate that seed borne transmission can be as high as 10%. A student in Kenya is also doing studies on the same.

**Comments/suggestions**: (i) MLN incidence is highly variable. It is helpful to link up with Kizito to explore the possibility of weather data modeling in relation to MLN incidence. (ii) Results from insecticide tests show that chemical sprays x 6 can boost yields by as much as 60%. The pesticide package is quite expensive. It may lead to attractive economic returns under large scale production but questionable under small scale producers. Currently the theme is evaluating a chemical that induces immunity to leaves. (iii) A high yielding (10t/ha) maize variety in Uganda, known as Bazuka is resistant to the disease. However, given the tendency of a given virus to have multiple pathogenic strains, adaptability of the variety to our local conditions remains to be explored. (iv) In Kenya, KEPHIS institutes strict monitoring of seed movements; seed lots with seed borne infections above 1% are disqualified. (v) It is common practice for seed regulatory authorities to collect samples from seed farms x 3 while the crop is in the field. Currently tests are conducted during harvesting and processing as well.

**Q2**.What is the extent of MSV incidence in large scale farms

**A**: CIMMYT is monitoring this aspect in hot spot sites.

Q3. Is there possibility of breeding for dual purpose material?

A: Experience shows high biomass compromises grain yield

Q4: What’s the quality of manure from animals fed to MLN -infected material? Has anyone looked into virus transmission through compost? How does the disease affect fibre quality /quality of compost from MLN infected maize stover?

A: They are good areas for investigation

Q. Are you involving farmers and incorporating their preferences?

A: Yes. In the course of developing and releasing hybrids for commercial production, candidate lines are tested on-station and on-farm and thereafter in multi-location sites where commercial varieties are used as checks in all stages of testing. Farmers are given opportunity to compare candidates with commercial checks. However, acceptability is not automatic.

**WT 3:** Forages: Formulate low cost feed rations, capacity building in the 6 action villages, quantify feed wastage, demonstrate improved feed intake, formulate chicken rations from crop residues, conduct CBR, scale mature technologies and collect yield and growth data on *Brachiaria,* *Cenchrus* and Legumes.

**Comment/suggestion**: use AEZ instead of villages

**Comment/suggestion**: Useful to express fresh weight yield data as well. Dry matter figures are ok for scientists but do not tell much about yield potential to a farmer

**Comment**: R4D platform shall explore how to strengthen farmer groups under the forages theme.

**WT 4**: Vegetables/Poultry integration:

**Vegetables component:** Continue with data collection from 2014/15 activities, introduce more elite vegetable varieties, maintain demonstrations on healthy seedlings, good agricultural practices and mobile gardens.

**Poultry component**: Field activities commenced in 2015. Formed 3 farmer groups each 8 members in three villages to host the trials in A-R sites where the vegetable component is operating. A total of 36 feeding trials were set up on 24 farms. Data collection on growth performance, mortality rate, farmers’ perception and cost effectiveness of the technologies is in progress

**Q1.** How did you identify the farmers?

**A:** Conducted PRA to identify constraints, challenges and opportunities for indigenous poultry production in A-R sites where the vegetable component was operating. Organized feedback meeting to prioritize most pressing constraints and identify collaborating farmers

**Q2:** During the planning meeting in Mangochi, poultry/vegetable integration featured strongly as an attractive component for the youth. Are the youth involved in your theme?

**A:** Yes. They are actively involved in both components and 20 youth were also among 87 farmer trainees. As of now; on -farm activities on vegetables has attracted a number of youth who were not participating in the project. One of them (Simon Abel- popularly known as “Babuu Jero Jero”), learnt from fellow farms in the project, started growing vegetables and took the initiative to dig wells to ensure enough water for irrigating his vegetable crops for home consumption and sale to restaurants in the village.

**Q3:** Do we have standard designs for poultry housing?

**A:** We give them pictures of different designs to select from; depending on available resources affordable to the farmers

**Comment:** May consider expending vegetable demonstrations to schools as an avenue for creating wide community awareness

**WT 5: Food storage, value addition, nutrition and mycotoxin management:** establish 3 more pilot processing and community training centres, conduct CBR, evaluate Aflasafe efficacy, analyse mycotoxin levels in poultry feed rations, samples from field experiments and farmers fields and stores, train farmers/households in novel processing, products development and preservation of locally produced grains, community sensitization with regard to improved grain processing, drying and storage tech, & nutrition Analyze samples collected from crop management experiments for mycotoxins content. An agro-dealer in Seloto sold 800 hermetic bags this season.

**Comments/suggestions:** Sale of 800 bags in one season by one agro-dealer is a remarkable achievement. - “A good technology will sell while you are asleep”. The team was advised to make follow up on- who bought and where; and whether the bags are used correctly; -i.e. store grain at right moisture content, fill bags to the tip and close the bag firmly, storage in ventilated rooms and careful handling to avoid tare and spillage of grain –a precaution to mitigate rat damage.

Q1. Where did you get Moringa for inclusion in the recipes?

A: *Moringa ole*ifera (Mlonge in Kiwsahili) is found in a few farmers fields in Babati.

**WT 6:** R4D platform: JUMBA established at district level in 2014. Has not performed to expected level. There is a need to re-invigorate it. Plan to work closely with the scaling project and A-R gender specialist to organize operational platforms at ward level by May 2016. Platform activities for 205/16: - to include feedback meetings with farmers and local communities; training sessions with stakeholders on participatory interventions, and community based mobilization to access viable markets and market information.

**Comments /Suggestions:** (i) the workplan is ok so long as all themes feel they are part of JUMBA. Ideally this line of thinking should have come out from the very beginning (ii) S.D.Lyimo can be among valuable resource persons in addressing issues on JUMBA performance. (iii) Use existing structures like village governments as entry points in setting the operational platforms. (iv) District councilors can play key role in sourcing funds for the platform

**Appendix 2: Questions and answers across villages during feedback meetings (12 -14.11.2015)**

**1. Seloto:**

**Q1**: What are the analysis results for the soil samples you collected?

**A**: The results indicated deficiency of key nutrient elements, hence the rational for applying fertilizer

**Q2**: Why apply industrial fertilizers while we know FYM works well?

**A**: Laboratory analysis results indicated the manure has very low nutrient content of major elements- e.g.0.8% P. In this context, application of FYM alone cannot increase crop yields to the desired level. Our research findings showed that application of half rate (3t/ha) FYM mixed with half rate minjingu mazao gives very good yields comparable to DAP

**Q3**: We are currently facing food shortage as a result of poor crop harvests this year. How are you helping us out?

**A:** Advisable to channel the problem through village leadership for further consideration by the District Council

**Q4:** What’s the cause of pigeon pea wilt?

**A:** Wilting may be associated with a number of factors. The best approach is to call-in the local extension agent, who will be in a better position to diagnose the cause and advice accordingly on appropriate measures or collect samples and forward to appropriate laboratories for diagnosis and recommendation on effective management strategies.

Q5: Why relatively low bean yields under maize/legume intercrop?

A: High crop yields go hand in hand with optimum spacing. Plants need enough sunlight, adequate soil moisture and sufficient space for its roots in order to “manufacture its food”. In your case it is likely you used a close spacing where bean plants were shadowed by the tall growing maize plants; they did not intercept enough sunlight. It is advisable to observe the recommended spacing for maize/bean intercrop.

Q6: What’s balance diet?

A: A meal that has three basic components – carbohydrates (CHO), protein and vegetables and fruits (as key sources of vitamins). Surveys on nutrition show high CHO dietary intake, less protein and minimal vegetable intakes; food habits which lead to health problems especially to children and mothers. Community sensitization and training in food recipes are meant to address this problem

**Q7**: We are experiencing stubborn insect pests to chemical sprays. What is the solution?

**A**: Read manufacturer’s instructions carefully. Make sure you spray the right pesticide to the right pest at the correct application rate and frequency. Consult the local extension agent for further advice.

**Q8**: It appears the machines were issued to a few individuals. How do we access them?

**A:** The machines are meant for demonstration to all interested villagers. They were issued to a farmer group involved in poultry/vegetable integration component for safe custody and proper use but should be accessible to others, subject to conformity to laid down guidelines

**Observations:** There are shades of confusion amongst farmers on symptoms caused by mycotoxins and MLND

**Suggestion:** The forage component is looking for volunteers willing to offer about ¼ acre for multiplying improved forage material between Novembers and December. Volunteers are advised to register their names with the Agrovet officer in the village

**2. Hallu:**

Q1: What’s the explanation for maize plants bearing 7 -10 cobs /plant?

A: In most cases this phenomenon is associated with recycled hybrid maize seed/ fake seed. Farmer are encouraged to buy seed from registered agro-dealers, demand receipt upon purchasing the seed; retain small quantity of grains and to consult the local extension agent/TOSCI for further advise.

Q2. Aligning rows for optimum planting population is rather cumbersome in cases where a farmer owns 5 -10 acres. What’s the alternative practical option?

A: Use oxen drawn or tractor mounted planters. This practice gives best results where land tillage operations were conducted properly

Q3: The recommendation is to top dress maize with urea when the crop is at knee height. What if at that time there is not enough soil moisture?

A: The recommendation says “four weeks after germination” but only if the weather is conducive. Farmers should exercise flexibility but never top-dress when plants are at flowering stage

Q4: What’s mycotoxin? Where do we get hermetic bags; at what price?

A: Mycotoxin is a toxin produced by fungi growing on maize grain, commonly grain at tip of maize cobs which are not fully covered by maize sheath /exposed to rain at maturity stage. Upon consumption, the toxin causes health risks to both human and animals. The problem is manageable through appropriate grain processing, handling and storage. Hermetic bags sell at Tsh 3,500 – 4000 depending on quality. They are available in Babati --Mpole and Kanisa la Mungu agro-inputs shop

Q5: How do we handle poultry diseases – diarrhea and swelling of eye lids

A: The Primary cause of eyelid swelling poor nutrition. So let improve feed standards. Diarhoea is manage by appropriate vaccination. Consult nearest Agrovet

**Q6:** Is good diet all about eating meat and beans?

**A:** No. Both meat and beans are sources of protein. A good meal contains carbohydrates for energy, protein for body building and vegetables/fruits for vitamins to enhance body immunity.

**Comment:** Monica Pascal from Gallapo vegetable/poultry integration group; testified on how vegetables have contributed to her household through improved income and nutrition.

**Suggestion:** The forage theme invited volunteers to offer ¼ acre for multiplying improved forage material

**3. Long**

Q1: What happened to the soil samples? Can we have soil fertility data at individual farm level?

**A:** Soil samples were collected from several points in the village, bulked and analyzed for nutrient content. The results showed average values for soil fertility status. Individual farmers who would like to have soil samples from their farms analyzed can list their names with the extension agent, but should bear in mind they will be charged nominal fees for the analysis.

**Request**: The villages placed a request for additional themes: rabbits, fruits and vegetables, poultry, dairy cows, and expertise on Irish potatoes diseases management

**Observations**: A high proportion of farmers appeared to have benefited from A-R technologies. They expressed very positive opinion on the project. One said “that’s why we all waited patiently for arrival of your team up to this hour” Apparently our team arrived some 1.30 hours late.

**Suggestion:** Farmers interested in forage material should register with the Agrovet within the village.

**Shaurimoyo:**

**General observation**: A-R introduced two themes – forages & post harvest – for the first time this year (2014/15). There were signs of communication gap both between village leadership and the community and within community members themselves. This calls for closer visits/follow up by theme teams.

**Matufa:**

**Q1**: Some of the vegetables sold in local markets have very strong “smell” of pesticides. How safe are they to consumers

**A**: Such products are not fit for human consumption. Farmer are advised to observe guide lines on safe pesticide usage

**Q2**. I want to raise my own healthy seedlings. How do I go about it?

**A:** Best approach is to use compost; It is available in BALTON shops.

**Q3.** What’s the best medication for poultry suffering from swollen eye lids and diarrhea?

**A:** Swelling of eye lids is caused by poor feeding –improve nutrition standards for the poultry. Diarrhea is manageable through vaccinations. Contact your nearest Agrovet for advice

**Q4.** Where can I get hermetic bags?

**A:** Mpole agrovet and Kanisa la Mungu in Babati

**Q5**: Do hermetic bags affect seed germination?

**A:** Yes, they do. Grain stored in the bags is not suitable for planting.